

## CLIMATOLOGICAL DATA FOR NOVEMBER, 1911.

## DISTRICT No. 12, COLUMBIA VALLEY.

EDWARD A. BEALS, District Editor.

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November, as a whole, was notably cool throughout this district. The opening and closing days of the month were mostly pleasant, but from the 3d to the 20th the weather was generally stormy. There were frequent high winds along the coast, and during one of these gales, with a very rough sea, the steam schooner *Washington*, lumber laden and with 26 passengers and crew of 22 aboard, went aground on Peacock Spit near the North Head Weather Bureau Station, on the 12th, and was in grave danger. The official in charge at North Head promptly notified the authorities and after several attempts at rescue the steam tug *Tatoosh*, Capt. Bailey, during a slight lull in the storm on the afternoon of the 13th succeeded in getting a line aboard the *Washington* and towed her out to sea and into the Columbia River. The loss is estimated at about \$2,000 for cargo lost overboard, and \$7,500 damage to the vessel. No lives were lost.

Although the precipitation was below normal in most sections, a larger percentage than usual occurred in the form of snow, and on account of the low temperatures prevailing considerable snow remained on the ground at the close of the month, especially in the mountainous sections of the interior. From the 8th to the 15th heavy snows fell on the west slope of the Rockies in Montana, and snow slides occurred in the vicinity of Fielding and Java on the Great Northern Railroad, which interfered greatly with traffic. In the Cascade Mountains in Washington the unusually heavy snowfall melted rapidly with the warm rains of the 16th to 20th, and the enormous volume of water thus set free caused sudden and severe freshets in the rivers flowing to Puget Sound and the lower Columbia. Many railroad tracks and bridges, and county roads and bridges were washed out, resulting in the loss of thousands of dollars. On some railroads traffic was blocked for periods of 2 to 12 days. These freshets began suddenly and almost without warning in the upper reaches of the streams, but in the lowlands near tidewater the water level rose gradually so that imperiled persons were rescued and no loss of life occurred directly due to the floods.

## TEMPERATURE.

The average temperature as determined from 253 stations was  $36.3^{\circ}$ , or  $2.5^{\circ}$  below the normal. The lowest temperatures were encountered in the eastern parts of the district and the highest west of the Cascade Mountains. The most notable feature was the cold period which occurred between the 8th and 13th. The cold was greatest in the northern portions of the district. In the State of Washington it was unparalleled for the season of the year. On the 11th the temperature at Republic, Wash., reached  $15^{\circ}$  below zero, which is the lowest temperature ever recorded in Washington so early in the season. In the State of Idaho the mean temperature was the lowest on record with two exceptions, and in Montana the average temperature was  $5.3^{\circ}$  below the normal for November.

In Oregon and Washington the opening days of the month were warm and a large proportion of the maximum temperatures were then recorded. In the eastern portion of the district the maximum temperatures for the month occurred more generally on or following the 20th.

The highest mean temperature was  $49.5^{\circ}$  at Gardiner Oreg., and the lowest  $18^{\circ}$  at Bedford, Wyo. The highest temperature recorded was  $79^{\circ}$  at Gold Basin, Wash., on the 19th, and the lowest  $-26^{\circ}$  at Fortine, Mont., on the 11th and at Afton and Bedford, Wyo., on the 28th.

## PRECIPITATION.

The average precipitation as determined from the records of 363 stations was 3.95 inches, or 0.90 inch below the normal. While the deficiency was quite general over the district, some sections report an excess, notably that portion of the coast near the mouth of the Columbia River, southeastern Idaho, and western Montana. The greater part of the precipitation occurred, in all portions of the district, between the 3d and the 18th, although along the Washington and northern Oregon coast the rains continued almost uninterrupted to the end of the month. General rains occurred also on the 25th and 26th over the entire district.

The greatest monthly amount recorded was 27.79 inches at Quinault, Wash., and the least 0.03 inch at Moxee, Wash. The greatest 24-hour precipitation was 6 inches at South Bend, Wash., on the 18th. The greatest snowfall recorded for the month was 84.5 inches at Snoqualmie Pass, Wash.

## THE RIVERS.

The flow in the Willamette and Snake Rivers averaged about normal; in the former it was a little above and in the latter a little below. The most deficient flow was in the Columbia River which averaged 2 feet below normal for the month. The average stages have not been so low on this river during any November since the year 1904. The maximum stages on this stream occurred on the 20th or a few days later, and the minimum in a majority of cases during the first week. The mean stage at The Dalles was 1.9 feet and the lowest reading 1.3 feet. At Cascade Locks the mean stage was 1.1 feet and the lowest reading zero. The average stage was from 0.5 foot to 2.1 feet lower than in October.

On the Willamette River the highest stages occurred from the 16th to the 19th and the lowest during the first week. The river was much higher on the average than in the preceding month, owing to the generous rainfall in western Oregon about the middle of the month and the consequent sharp rise in the Willamette and its tributaries. The highest water recorded on the lower gage at the Oregon City Locks was 16.9 feet and the lowest

2.6 feet. At Portland the highest stage was 7.8 feet and the lowest 0.8 foot.

The highest water in the Snake River occurred during the second week. The water was low at both the beginning and the close of the month, but the average stages were a little higher than in October.

The month closed with decreasing stages in practically all streams.

#### MISCELLANEOUS.

November was an unusually windy month in the Puget Sound and coast districts. At Seattle the average

velocity was 11.9 miles per hour, the highest rate yet recorded for that station, and the maximum velocity was 52 miles per hour from the southwest on the 20th. At Tatoosh the maximum velocity was 70 miles from the south on the same date. The highest wind velocity at North Head was 78 miles from the southeast on the 12th. Thunderstorms occurred quite generally in Idaho on the 15th. Killing frosts occurred in the western part of the district from the 9th to 11th. The sunshine was several per cent below the normal, and dense fogs occurred at Seattle, Tacoma, Tatoosh Island, North Head, and Portland on several dates.

TABLE 1.—*Climatological data for November, 1911. District No. 12, Columbia Valley.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.	Prevailing wind direction.	Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unadjusted.				
<b>Montana.</b>																		
Anaconda.....	Deer Lodge.....	5,300	10	27.8	- 6.0	52*	19	- 15*	11	39*	0.83	+ 0.05	0.21	9.3	6	5	C. D. Demond.	
Butte.....	Silver Bow.....	5,716	17	26.9	- 6.4	53	20	- 12	11	33	0.95	+ 0.17	0.25	9.5	8	11	J. R. Wharton.	
Columbia Falls.....	Flathead.....	3,100	16	23.2	- 8.7	47	14†	- 12	11	35	3.35	+ 0.95	0.44	22.7	16	8	J. M. Grist.	
Como **.....	Ravalli.....	3	31.1			47	4†	2	11	23	2.13		0.38	11.0	13	8	Hiram Platt.	
East Anaconda.....	Deer Lodge.....	5,500	6	27.8		56	19	- 12	11	42	0.78		0.35	7.1	9	5	C. D. Demond.	
Fortine.....	Lincoln.....	2,975	6	24.8		62	21	- 26	11	44	2.16		0.49	18.0	12	9	Mike Petery.	
Hamilton.....	Ravalli.....	3,575	8	32.6	- 3.6	57	20	- 3	11	29	1.05	+ 0.08	0.34	4.3	6	10	Bitter Root Valley Irrig. Co.	
Hat Creek.....	Powell.....	6,000											0.37	24.4	16	4	M. K. Landreth.	
Kalispell.....	Flathead.....	2,965	13	25.6	- 6.4	46	18	- 8	11	32	2.49	+ 0.59	0.70	16.2	14	3	U. S. Weather Bureau.	
Litby.....	Lincoln.....	2,055	2	25.2		48	7	- 15	11	37	1.87		0.47	14.0	11	9	U. S. Forest Service.	
Lost Creek.....	Deer Lodge.....	5,200	2								0.30		0.16	10.0	3	16	Frank Henault.	
McGinnis Meadows.....	Lincoln.....																H. L. Bebee.	
Missoula.....	Missoula.....	3,225	32	30.0	- 2.2	54	20	- 2	12	34	0.58	- 0.75	0.15	2.6	9	4	U. S. Weather Bureau.	
Ophir.....	Powell.....	6,800	2								1.04		0.30	15.5	8	14	E. S. Wilton.	
Orvando.....	do.....	4,207	12	20.6	- 8.7	41	19	- 18	11†	36							S. B. Muchmore.	
Philipsburg.....	Granite.....	5,275	8	27.2*		58*	20	- 12*	11	39*	1.31		0.40	11.0	8	7*	G. T. Bramble.	
Plains.....	Sanders.....	2,475	13	32.0	- 0.4	58	20	0	11	30	2.50	+ 1.04	0.53	10.5	7	12	M. H. Pierce.	
Pleasant Valley.....	Flathead.....	3,500	4	24.6		50	19	- 31	11	62	3.67		0.70	14.5	14	7	A. D. Stillman.	
Polson.....	do.....	2,920	4	29.7		47	2	- 2	12	29	2.04		0.40	10.0	8		F. P. Brown.	
Proctor.....	do.....	2,800	7	29.0		46	13	- 2	11	34			0.40		19*	0*	C. E. Proctor.	
St. Ignatius.....	Missoula.....	2,700	6	25.5		64	20	- 12	12	46	1.55		0.40	11.6	9	3	U. S. Reclamation Service.	
St. Regis.....	do.....	2,650	4														R. D. Lee.	
Saltese.....	do.....	3,600	7														E. K. Tarbox.	
Stevensville.....	Ravalli.....			31.4		60	21	- 4	11†	35	0.83		0.25	6.6	8	7	J. S. Birge.	
Thompson Falls.....	Sanders.....	2,462		31.0		54	20	0	12	27	3.62		0.50	13.5	18	6	R. H. Bushnell.	
Willow Glen Stock Farm.....	Deer Lodge.....	5,064	1								0.60		0.50	6.0	2	7	G. E. Luce.	
<b>Wyoming.</b>																		
Afton.....	Uinta.....	6,200	7	25.7	- 4.6	52	1†	- 26	28	62	1.30	+ 0.52	0.40	14.5	15	14	A. V. Call.	
Alta.....	do.....	7,000	1	21.1		50	20	- 23	28	43	1.87		0.25	21.3	11		Mrs. Lucy Brown.	
Beechler River.....	Yellowstone Park.....																U. S. Army.	
Bedford.....	Uinta.....	5,900	11	18.0*	- 12.7	48*	20	- 20*	28	38*	1.37	+ 0.31	0.28	13.7	9*	2*	C. G. Heinert.	
Moran.....	do.....			19.3		46	1	- 20	28	37	3.54		0.65	35.4	12	4	U. S. Reclamation Service.	
Snake River.....	Yellowstone Park.....	7,000	5	19.2		49	5	- 33	28	52	5.60		1.75	75.0	14	11	U. S. Army.	
<b>Nevada.</b>																		
San Jacinto.....	Elko.....		6	30.9		63	1	- 7	12	49	0.93		0.60	7.5	6	15	nw.	Mose Jones.
<b>Utah.</b>																		
Standrod.....	Boxelder.....		6	31.8		55	3	4	12	31	1.04		0.31	5.5	8	15	3	T. B. Jones.
<b>Idaho.</b>																		
Albion.....	Cassia.....	4,650	10	33.9	- 3.8	66	20	2	12	45	1.78	+ 0.43	0.69	6.5	9	2	C. E. Bocock.	
Almo.....	do.....	3									1.08		0.40		6	15	Wm. D. Cahoon.	
Alpha.....	Boise.....	1															J. W. King.	
American Falls.....	Oneida.....	4,341	10	27.4	- 7.7	55	3	0	11†	46	2.23	+ 0.97	0.45	T.	8	15	Geo. Stoll.	
Arrow Rock.....	Boise.....																U. S. Reclamation Service.	
Blackfoot.....	Bingham.....	4,503	16	29.0	- 5.0	54	20	- 3	28	41	2.20	+ 1.28	0.50	11.9	9	6	E. A. Dowd.	
Blackfoot Dam.....	Bannock.....	6,200	2								2.07		0.35	21.5	14	12	N. W. Irshid.	
Bucks Ranch.....	Elmore.....	3,500	2								3.53		0.77	15.6	12		William Bock.	
Bogus Creek.....	Boise.....	4,200	3								3.17		0.70	8.7	11	10	F. P. Ingraham.	
Boise.....	Ada.....	2,739	26	37.8	- 1.8	59	20	- 16	11	26	1.70	+ 0.84	0.42	0.7	9	9	U. S. Weather Bureau.	
Bonners Ferry.....	Bonner.....	1,850	4	28.9		57	8	- 10	11	37	2.78		0.60	25.0	15	4	W. H. Heideman.	
Boulder Mine.....	Boise.....	4,800	2								4.73		0.71	38.5	15	16	Patrick Moriarty.	
Buhl.....	Twin Falls.....	3,800	5	37.2		60	1	12	12†	31	0.14		0.03	T.	7	17	Hugh Taylor.	
Caldwell.....	Canyon.....	2,372	7	37.0		61	20	15	11†	36	1.29		0.42	0.0	11	10	Wm. J. Boone.	
Camas.....	Fremont.....	4,815	3	27.8		69	20	- 7	12	61	0.63		0.41	5.5	3	7	Mrs. Edna Faulkner.	
Cambridge.....	Washington.....	2,651	16					6	11		1.71	- 0.76	0.76	4.0	6	7	Chas. H. Shepherd.	
Cedar Creek Dam.....	Twin Falls.....		1								2.12		1.05	11.0	7	10	Robert Hoffman.	
Chesterfield.....	Bannock.....	5,424	16	24.1*	- 6.0	59	1	- 20	28	56	1.75	+ 0.90	0.25	25.0	9	15	Chas. S. West.	
Clyde.....	Custer.....							1	11†								R. L. Sutcliffe.	
Council.....	Adams.....	1,520	3	40.8		65	2†	9	11	42	1.49		0.95	0.2	4	10	F. L. Featherston.	
Culdesac.....	Nez Perce.....																R. R. Richmond.	
Deary.....	Latah.....																H. H. Henry.	
Dent.....	Clearwater.....	1,350		36.0		57	1	18	12	29	5.14		0.80	14.5	13	5	Emil Schuessler.	
Driggs.....	Fremont.....	6,007	5	20.8		46	3	- 24	28	38	1.46		0.36	21.0	11	9	Walter H. Durrant.	
Emmett.....	Canyon.....	2,350	5	37.7*		59	1	9	22†	38	1.72		0.60	0.8	8	7	G. P. Kar.	
Forney.....	Lemhi.....	13	26.4	- 4.2	53	6†	- 14	12	45	0.71	- 0.98	0.23	15.1	4	10	M. B. Merritt.		
Garden Valley.....	Boise.....	3,600	6								2.65		0.55	16.0	8	10	Mrs. Gertrude M. Ross.	
Garnet.....	Elmore.....	2,575	12	41.0	- 2.7	62	19	15	30	38	0.37	- 0.35	0.18	0.0	4	19	Asa A. Kenison.	
Glenns Ferry.....	Elmore.....	2,559	4	36.4		60	3†	9	30	46	1.23		0.30	1.5	9	4	I. E. Perkins.	
Gooding.....	Lincoln.....	3,572	2	33.0		58	1	1	11	38	2.15		0.48	4.0	11	5	John Krall, Jr.	
Grand Forks.....	Shoshone.....	3,000	2					- 5	27								Henry Kottkey.	
Grandview.....	Owyhee.....	2	35.8		59	3	8	28	43	0.73		0.23		10	11	5	N. G. Massey.	
Grimes Pass.....	Boise.....	5,200	2								3.81		0.46	29.5	14		Joseph M. Clarke.	
Guffey.....	Owyhee.....	2,381	3	39.8		60	1†	15	30	38	1.49		0.31	T.	14	12	Fred Perry.	
Hailey.....	Blaine.....	5,347	8	28.4	- 7.4	52	1	- 5	11†	30	1.59	+ 0.20	0.80	13.0	8	13	U. S. Forest Service.	
Hotspring.....	Owyhee.....	2,752	6	39.8		62	1	12	30	37	1.03		0.44	0.0	8	14	J. M. Waterhouse.	
Idaho City.....	Boise.....	4,000	12								3.56	+ 0.70	0.60	24.5	9		Mrs. Emma Hammer.	
Idaho Falls.....	Bonneville.....	4,742	17	28.0	- 3.8	49	3	- 4	28	34	1.47	+ 0.36	0.36	6.8	9	10	Dr. T. M. Bridges.	
Indian Valley.....	Adams.....	2,999	3								2.50		0.42	12.5	11	7	A. M. Henke.	
Irwin.....	Bonneville.....	6,500	2	24.4		52	3	- 17	28	46	1.29		0.27	12.2	6	13	Miss Eva Johnston.	
Kellogg.....	Shoshone.....	2,305	7	32.2		55	1	6	11†	35	5.00		0.93	15.8	14	4	W. McM. Huff.	
Kirkham.....	Boise.....	4,200	2								3.06		0.60	20.0	7	7	Mrs. Josie B. West.	
Kooskia.....	Idaho.....	1,261	3	35.2		51	22	13	12	28	1.42		0.30	5.5	10	4	U. S. Forest Service.	
Lakeview.....	Bonner.....	2,250</td																

TABLE 1.—*Climatological data for November, 1911. District No. 12—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.		
				Mean.	Departure from the normal.			Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.	Number of rainy days, 0.01 inch or more.			
					Highest.	Date.	Lowest.													
<i><b>Idaho—Continued.</b></i>																				
Meadows.	Adams.	3,950	1	37.0	61	20	15	11	36	1.48		0.45	0.9	12	8	9	13	Chas. A. Hackney.		
Meridian.	Ada.	2,637	2	33.9 <sup>a</sup>	59	1	11	33										A. W. Garrett.		
Mesa.	Adams.	3,275	2	33.9 <sup>a</sup>	54	1 <sup>t</sup>	15	12	30	3.70		0.55	6.4	16	7	3	20	se. I. S. Carter.		
Middle Fork.	Idaho.	1,250	2	36.4	55	3 <sup>t</sup>	5	12	44	1.67		0.59	2.2	5	10	7	13	Jos. McGhee.		
Milner.	Twin Falls.	4,110	7	34.6	55	3 <sup>t</sup>	9	11	29	1.59	-1.67	0.50	9.5	10	13	3	14	w. James K. Young.		
Moscow.	Latah.	2,748	20	35.6	-2.1	56	1	3	11	29								University of Idaho.		
Mountainhome.	Elmore.	3,150	6					7	28									Mrs. Ellen Manion.		
Murtaugh.	Twin Falls.	5	33.2 <sup>a</sup>		54 <sup>a</sup>	20	4 <sup>a</sup>	12	33 <sup>a</sup>	1.45		0.60	2.5	7				w. J. E. Steinour.		
Nez Perce.	Lewis.	3,082	2	32.8	50	20	1	11	34	0.74		0.27	8.0	7				P. Mitchell.		
Oakley.	Cassia.	4,700	18	34.3	-4.4	67	2	9	28	44	+ 0.22							s. John Adams.		
O'Hara Bar.	Idaho.	1,400	2	33.5 <sup>a</sup>	49 <sup>a</sup>	21	14 <sup>a</sup>	12	24 <sup>a</sup>	4.72		0.58	12.0	17				J. D. Agnew.		
Orofino.	Clearwater.	1,027	7	33.8	58	22	5	28	35	3.45		0.62	13.5	14	5	18		Geo. Alteneder.		
Payette.	Canyon.	2,159	20	36.0	-3.9	59	3	14	11 <sup>t</sup>	38	-0.16	0.47	1.2	7	12	5	13	E. F. Allen.		
Peaceful Valley.	do.	2,325	1															J. W. Newton.		
Pebble.	Bannock.	5,277	3	25.8	51	2	-13	28	45	3.70		0.97	41.0	14	13	1	16	sw. Mrs. Fannie Say.		
Pierson.	Custer.	7,000	3	23.4	72	3	-22	28	50	1.73		0.72	17.0	5	12	0	18	s. David P. Clarke.		
Pine.	Elmore.	4,100	2															Mrs. Jennie Potter.		
Pleasant Valley.	Ada.	3,000	4	35.4	60	20	13	27	36	1.36		0.45	0.3	12	14	3	13	se. C. E. Friedrich.		
Pocatello.	Bannock.	4,483	12	32.4	-4.3	53	3	5	29	33	2.02	+ 1.47	0.41	8.9	12	9	9	12	se. U. S. Weather Bureau.	
Pocatello Nursery.	do.	5,396	5															P. T. Wrensted.		
Poplar.	Bonneville.	25.5			52	10 <sup>t</sup>	-8	28 <sup>t</sup>	40				18.1		6	6	18	sw. C. M. Lawrence.		
Porthill.	Bonner.	1,665	22	-6.5	48	1	8	11	29	2.22	-1.08	0.33	21.0	15	10	1	19	H. A. French.		
Powers' Ranch.	Bolse.	4,300	3										1.00	26.4	10	20	0	10	Mrs. Mary French.	
Pyle Creek.	do.	3,100	2										0.91	17.6	11	12	6	12	P. V. Smith.	
Rattlesnake Creek.	Elmore.	4,000	3										0.62	17.3	13	10	6	14	R. M. Green.	
Richfield.	Lincoln.	2	30.4		56	1	-5	5	12	2.14		0.61	13.7	9	12	12	6	sw. Idaho Irrigation Co.		
Roseberry.	Boise.	1					-20	28										Rev. H. F. Barstow.		
Roseworth.	Twin Falls.	2											0.34	5.5	6	17	6	7	w. D. B. Hartwell.	
Ruby Creek.	Boise.	4,400	3										1.05	28.5	13	9	10	11	w. O. A. Hatter.	
Rupert.	Lincoln.	4,204	5	32.8	57	1	5	28	39	1.74		0.33	2.5	9	18	2	10	sw. Will Parry.		
St. Maries.	Kootenai.	2,263	15	33.0 <sup>a</sup>	56	50 <sup>t</sup>	2	10	11	30 <sup>a</sup>	3.82	-0.54	0.68	13.6	15			sw. J. S. Turnbull.		
Salmon.	Lemhi.	4,040	6	28.1	51	7	-1	12	32	1.73		0.40	9.5	6	7	22	1	nw. B. C. d'Easum.		
Salmon River Dam.	Twin Falls.	4																P. W. Farrar.		
Sandpoint.	Bonner.	2,086	1	29.2	49	1 <sup>t</sup>	-2	11	35	5.37		0.98	22.2	12	10	2	18	s. J. H. Edgerton.		
Sheep Hill.	Boise.	5,000	4										0.90	25.5	12	9	17	4	sw. C. M. Gardner.	
Shoshone.	Lincoln.	3,968	4	32.0	52	3 <sup>t</sup>	4	12	31	2.47		0.62	5.4	9	11	4	15	w. Zell Truman.		
Silver City.	Owyhee.	6,280	4										0.72	17.0	11	11	8	15	sw. A. D. Bradfield.	
Smith Prairie.	Elmore.	5,200	2										0.75	2.6	9			nw. William W. Newell.		
Soldier Creek.	Blaine.	1											1.00	28.7	10	13	8	9	nw. J. E. Minear.	
Spirit Lake.	Kootenai.	2	30.8		61	1	-4	11 <sup>t</sup>	46	5.70		1.07	32.5	16	12	5	13	ne. M. C. Krause.		
Springfield.	Bingham.	4,420	3	34.8	60	2	4	28	37	1.60		0.38	12.5	9	10	12	8	sw. Mrs. W. A. Edwards.		
Sugar.	Fremont.	4	31.5		56	1	-7	27 <sup>t</sup>	50	0.99		0.44	7.0	7	11	5	14	nw. Utah-Idaho Sugar Co.		
Sunnyside.	Elmore.	2	35.2		58	3 <sup>t</sup>	11	28 <sup>t</sup>	37	1.32		0.30	T.	8				Col. M. W. Wood.		
Tripod Mountain.	Boise.	4,300	2										0.56	16.6	10	11	4	15	Mrs. Verna Paddock.	
Twin Falls.	Twin Falls.	3,825	6	33.4	58	19	3	29	33	1.88		0.40	0.5	9	10	10	10	w. J. A. Waters.		
Vernon.	Fremont.	14	26.4	-6.9	49	1 <sup>t</sup>	7	11	38				9.5		16	6	4	e. A. M. Slater.		
Wallace.	Shoshone.	2,728	4	31.8	48	20	7	11	23	7.44		1.18		42	T.	9	8	10	sw. U. S. Weather Bureau.	
Weiser.	Washington.	2,114	8	38.8	58	2 <sup>t</sup>	15	11	35	0.76		0.42	T.	8	10	9	7	s. G. O. Sappington.		
Wendell.	Lincoln.	3,400	3	34.6	59	1	10	12	39	1.39		0.40	0.1	6	14	9	7	w. Chas. L. Dingler.		
<i><b>Washington.</b></i>																				
Aberdeen.	Chehalis.	162	20	43.4	-23	58	1 <sup>t</sup>	18	11	21	17.22	+ 2.40	4.07	13.5	20	0	20	10	w. C. S. Weatherwax.	
Anacortes.	Skagit.	60	17	41.7	56	24	12	11	22	4.41	-0.11	1.21	2.2	5	1	17	12	sw. Douglas Allmond.		
Baker.	do.	200	5	39.8	61	1	10	11	23	15.60	-0.42	1.60	4.8	19	0	6	24	r. M. White.		
Bellingham.	Whatcom.	60	16	43.0	-2.0	59	1	8	11	27	5.27							Sanford B. Mayhew.		
Bellingham (near).	do.	107		40.4	56	1	9	11	27	0.98		1.65	6.0	21	8	8	14	U. S. Bu. of Plant Industry.		
Beverly.	Grant.	545																		
Blaine.	Whatcom.	57	14	40.0	-1.1	54	20	5	11	23	7.75	+ 0.89	1.17	5.0	20	2	15	13	ne. John W. Sheets.	
Blewett.	Chelan.	2,200	1										4.17	35.0	16				John Burmeister.	
Bremerton.	Kitsap.	30											4.19						U. S. Navy Yard.	
Brewster.	Okanogan.	1,620	1	31.0	56	3 <sup>t</sup>	5	11	24	6.61		1.74							re. Mrs. H. F. Bertram.	
Bumping Lake.	Yakima.	3,400	31.6		61	2	1	10	30	3.93		3.0	2.0	23.5	15	10	3	17	U. S. Reclamation Service.	
Cedar River.	King.	535	4										1.65	2.5	15	2	5	23	Geo. Landsburg.	
Centralia.	Lewis.	212	18	43.7	-1.5	60	7 <sup>t</sup>	5	11	29	9.17	+ 0.32	1.23	8.0	8	22	0	9	I. S. Turner.	
Cheney.	Spokane.	2,351	12	35.0	-2.5	58	3 <sup>t</sup>	8	11	29	5.56	+ 1.16	1.23	21.0	15	10	11	9	J. A. Balmer.	
Cle Elum.	Kittitas.	1,930	12	35.0	-2.5	58	3 <sup>t</sup>	8	11	29	5.56	+ 1.16	1.23	21.0	15	10	11	9	I. B. Doolittle.	
Clearbrook.	Whatcom.	140	8															W. L. Sax.		
Colfax.	Whitman.	2,300	22	39.9	+ 0.8	65	1	3	11	50		2.47	+ 0.29	.76	12.5	7	9	7	14	Wm. Baines.
Colville.	Stevens.	1,636	11	29.9	-3.6	56	3	5	11	37		.88	-1.03	.24	7.0	7	9	11	10	sw. U. S. Reclamation Service.
Concowny.	Okanogan.	2,300	11	30.6	-3.9	58	1 <sup>t</sup>	11	37	.88		.48		.15	3.0	7	16	11	3	Otto Mollweber.
Cowiche.	Yakima.	1,874	38.2		62	3	6	11	31	.48		.87	16.0	5	13	2	15	J. L. Thayer.		
Crescent.	Lincoln.	2,250	11	30.2	-6.3	53	7	3	11	34	1.38	-1.04	.87	16.0	5	13	2	15	W. W. Hendron.	
Davenport.	do.	2,450	2	31.4	-0.4	56	3	4	11	36	1.80		1.31	9.5	6	9				

TABLE 1.—*Climatological data for November, 1911. District No. 12—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.							Sky.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.			
<i>Washington—Contd.</i>																					
Kettle Falls.	Stevens.	1,265	2	31.6	.....	65	1	5	11	46	1.86	.....	.47	13.5	11	7	11	12	.....	Harry H. Cole.	
Kiona.	Benton.	430	6	41.4	17	7	11	33	11.93	1.57	16.5	19	1	16	13	ne.	.....	.....	J. A. Ulsh.		
Kosmos.	Lewis.	775	5	41.4	17	64	13	14	10	31	6.08	-3.40	1.27	3.5	18	2	16	12	sw.	Joseph Brothers.	
La Center.	Clark.	250	14	41.2	-2.2	64	20	8	11	42	1.80	.....	.70	6.0	7	9	7	14	sw.	M. E. Schreck.	
La Crosse.	Whitman.	1,400	2	37.8	.....	64	20	8	11	42	12.99	.....	1.64	36.5	18	4	2	24	nw.	U. S. Reclamation Service.	
Lake Clealum.	Kittitas.	2,171	3	.....	.....	.....	.....	.....	.....	.....	2.40	36.0	20	8	17	10	6	22	w.	Do.	
Lake Kachess.	do.	2,235	3	30.2	.....	54	3	-5	11	35	17.39	.....	2.32	48.0	18	2	6	22	e.	W. H. Van Meter.	
Lake Keechelus.	Chelan.	2,479	2	34.4	-3.6	61	4	6	11	38	.81	-1.10	.24	8.0	8	2	22	6	22	Mrs. Minnie E. Strout.	
Lakeside.	Klickitat.	1,116	20	34.4	1	53	4	-1	11	31	3.44	.....	.66	13.2	15	1	24	5	w.	Mrs. J. S. Myers.	
Laurel.	King.	1,644	7	28.8	.....	67	2	3	11	37	2.67	.....	.55	22.2	15	8	1	21	se.	Augustine Smith.	
Lester.	Chehalis.	1,614	7	39.1	.....	55	5†	.....	.....	5.34	1.30	.....	1.30	15	2	6	22	w.	U. S. Engineers.		
Long Tree.	Pierce.	2,800	2	.....	.....	.....	.....	.....	.....	14.58	.....	3.03	5.0	25	0	10	20	nw-e.	.....		
Longmire Springs.	Lost Creek.	3,125	2	.....	.....	.....	.....	.....	.....	0.61	.....	0.13	7.5	7	8	14	8	se.	P. H. Lees.		
Lucerne.	Chelan.	1,100	4	.....	.....	.....	.....	.....	.....	3.40	.....	.15	2.5	7	9	11	10	nw.	Lucian McConihe, jr.		
McConihe.	Grant.	1,072	35.0	.....	61	18	-1	11	37	.51	.....	.....	16.0	10	5	16	9	s.	Mrs. Mary McCumber.		
McCumber Ranch.	Yakima.	2,182	2	.....	.....	.....	.....	.....	.....	3.76	.....	.73	17.5	13	7	7	16	.....	.....		
Moses Lake.	Grant.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.7	.....	.....	.....	.....	.....	.....		
Mottinger.	Benton.	307	11	42.8	-1.3	68	7	16	11	31	.39	.....	.74	.20	T	3	23	2	w.	G. H. Mottinger.	
Mt. Pleasant.	Clallam.	500	39.3	.....	55	3	8	11	21	5.39	.....	1.42	16.8	15	6	14	10	nw.	Wm. M. Boot.		
Moxee.	Yakima.	1,000	19	37.0*	-2.2	67	18	9*	11	40*	.03	-1.19	.03	0.3	1	12	11	7	w.	Henry B. Scudder.	
Newport.	Stevens.	2,400	1	29.2	.....	54	1	3	12	39	3.76	.....	.73	17.5	13	7	7	16	e.	Chas. M. Talmadge.	
Nighthawk.	Okanogan.	3,050	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.7	.....	.....	.....	.....	.....	Steve Nagy.		
North Head.	Pacific.	211	9	46.6	-1.1	58	1	27	11	15	7.55	+ 1.22	2.27	1.6	25	2	3	25	nw.	U. S. Weather Bureau.	
Northport.	Stevens.	1,350	12	29.4	.....	50	1	6	27†	27	2.46	+ 0.06	.49	13.5	15	15	4	11	.....	W. F. Case.	
North Yakima.	Yakima.	1,070	2	37.8	.....	67	18	5	11	32	.04	.....	.02	0.7	3	17	9	4	nw.	Albert Bender.	
Nutland.	Klickitat.	2	41.0	.....	66	3	12	11	32	.35	.....	.14	0	4	3	35	.....	.....	Ruth J. Shepard.		
Odessa.	Lincoln.	1,640	8	31.6	.....	57	3	-3	11	35	.96	.....	.30	7.0	8	5	22	sw.	Wm. N. Neely.		
Olga.	San Juan.	50	21	48.4	-1.0	55	5	16	11	16	6.41	+ 1.45	1.46	6.0	19	1	15	14	sw.	Cecil S. Willis.	
Olympia.	Thurston.	200	33	44.2	-0.2	60	24	16	11	24	9.89	+ 1.29	1.97	8.5	19	0	8	22	sw.	M. O'Connor.	
Omak.	Okanogan.	850	2	31.0	.....	62	4	2	11	33	.44	.....	4.0	5	11	9	10	n.	St. John Umbrite.		
Oroville.	Parker.	922	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Peota.	Yakima.	5,000	2	.....	.....	.....	.....	.....	.....	.....	3.59	.....	1.00	16.1	17	9	6	15	sw.	Samuel Gruell, sr.	
Pomeroy.	Garfield.	1,500	19	40.8	-1.2	62	20	9	11	40	1.21	-1.36	.25	4.5	9	2	13	15	w.	Peter McClung.	
Port Crescent.	Clallam.	259	16	40.5	-1.8	56	17	13	11	20	6.39	-1.06	1.56	13.0	20	0	12	18	s.	U. S. Weather Bureau.	
Port Townsend.	Jefferson.	80	21	43.5	-1.6	57	15	17	11	15	1.81	-0.97	.90	5.5	12	2	6	22	sw.	Frank Plummer.	
Pullman.	Whitman.	2,550	19	35.6	-2.9	55	20	6	11†	28	3.46	+ 0.11	.81	9.0	11	8	4	18	sw.	State Agricultural College.	
Quets River.	Chehalis.	44.1	.....	50	1	19	11	18	21	52	5.60	0.3	.24	4	4	22	w.	C. A. Bullard.			
Quinault.	do.	300	4	43.5	.....	61	3	18	11	25	27.79	.....	4.71	9.0	24	7	6	17	w.	A. V. Higley.	
Republic.	Ferry.	2,628	11	27.4	-0.1	57	2	-15	11	41	.98	.....	.30	9.0	9	8	5	17	nw.	George B. Stocking.	
Rex Creek.	Chelan.	1,135	4	33.7	.....	.....	.....	12†	10	22	1.13	-0.16	.30	9	4	1	13	nw.	James W. Nicoll.		
Ritzville.	Adams.	1,825	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Agent N. P. Ry.		
Robertsville.	Klickitat.	35.8	.....	57	2	-1	11	32	4.43	.....	.91	23.0	15	6	22	2	2	2	.....	R. R. Conger.	
Rock Lake.	Whitman.	1,910	5	33.8	.....	59	20	8	11	38	2.21	.....	.55	9.0	7	13	8	9	sw.	P. M. Rainsey.	
Rosalia.	do.	2,425	19	35.8	-2.1	56	20	3	11	31	2.24	.....	.92	.45	7.0	14	8	8	13	sw.	Hans Mumom.
Russells Ranch.	Yakima.	2,870	2	.....	.....	.....	.....	.....	.....	4.27	.....	1.25	20.4	12	9	10	11	11	w.	Mrs. Adella Russell.	
Seattle.	King.	123	20	44.7	+ 0.2	57	7	22	11	16	3.26	.....	3.26	1.01	3.0	19	1	21	16	sw.	U. S. Weather Bureau.
Sedro-Woolley.	Skagit.	38	14	41.4	-2.8	58	1†	8	11	24	13.52	+ 6.30	2.09	3.0	21	3	11	16	sw.	Mrs. H. L. Devin.	
Sixprong.	Klickitat.	1,240	4	35.0	.....	62	5	7	11	28	.46	.....	2.30	1.0	5	9	2	19	sw.	C. E. Comstock.	
Skagit Power Dam.	Whatcom.	510	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Snohomish.	Snohomish.	100	17	38.1	-5.6	61 <sup>b</sup>	1†	8	11	24 <sup>c</sup>	4.03	-2.48	.80	4.0	11	9	10	20	nw.	A. M. Richardson.	
Snoqualmie Falls.	King.	867	12	42.4	.....	55	7†	13	11	20	8.65	-0.61	1.48	3.0	20	7	6	17	.....	O. N. Wiswell.	
Snoquahite Pass.	Kittitas.	3,000	2	27.4	.....	66	3	-12	11	39	3.14	.....	.....	84.5	10	11	17	2	sw.	C. E. Ingramam.	
South Bend.	Pacific.	16	45.2	-2.5	60	2	19	11	18	20.81	+ 6.69	6.00	T	24	1	6	23	w.	Mrs. W. E. Buckingham.		
Spokane.	Spokane.	1,943	30	35.0	-0.2	56	3	8	11	31	2.58	+ 0.28	1.00	18.0	14	2	10	18	sw.	University of Washington.	
State University.	King.	170	2	44.0	.....	56	7	23	11	16	3.11	.....	.71	0.3	18	5	3	22	s.	Chas. W. Gunn.	
Stokes Ranch.	Okanogan.	2,670	2	.....	.....	.....	.....	.....	.....	2.12	.....	.....	.57	23.8	10	8	15	6	nw.	H. E. Thompson.	
Summer.	Pierce.	77	3	43.5	.....	60	7†	11	11	27	4.87	.....	.81	1.7	20	5	3	22	n.	U. S. Reclamation Service.	
Sunnyside.	Yakima.	740	16	39.4	-0.4	66	5	12	28	38	.99	-0.91	.05	.7	4	8	19	3	sw.	U. S. Weather Bureau.	
Tacoma.	Pierce.	213	25	43.8	-0.3	56	24	19	11	18	5.44	-3.09	1.44	2.9	20	2	4	24	sw.	Do.	
Tatoosh Island.	Clallam.	86	26	45.2	-0.7	54	3	25	11	16	11.12	-0.97	2.81	11.8	24	2	5	23	ne.	Geo. A. Wallace.	
Tieton.	Yakima.	2,000	2	35.1	.....	59	3	-1	11	26	2.57	.....	.60	11.8	13	9	8	13	w.	U. S. Reclamation Service.	
Tonasket.	Okanogan.	945	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Touchet.	Walla Walla.	566	4	39.6	.....	68	3	9	10	43	.38	.....	.25	T	3	10	10	10	sw.	D. W. Dorrance.	
Touchet Ridge.	Columbia.	2,500	2	.....	.....	.....	.....	.....	.....	11.00	.....	1.90	18.0	13	3	7	17	sw.	R. H. King.		
Trinidad.	Douglas.	900	7	36.8	.....	66	18	2	11†	46	.30	.....	.20	3.0	2	14	9	7	s.	J. C. Wheeler.	
Vancouver.	Clarke.	100	36	45.3	0	64	1	19	11	25	2.28	-3.25									

TABLE 1.—Climatological data for November, 1911. District No. 12—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.							Observers.		
				Mean.	Departure from the normal.			Highest.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	
<b>Oregon—Continued.</b>																				
Burns.	Harney.	4,157	20	35.8	+ 1.4	61	1	6	28	42	0.72	— 0.87	0.22	4.0	7	6	6	6	J. C. Welcome, Jr.	
Cascade Locks.	Hood River.	100	21	43.4	- 1.9	61	1	22	11	23	11.95	+ 0.14	1.84	5.5	22	8	2	20	Val. W. Tomkins.	
Cazadero.	Clackamas.	503	2	46.0	—	65	1	26	11	32	5.15	—	0.74	0.8	20	6	1	23	w. se.	
Cliff.	Lake.	4,300	4	33.2	—	65	3	—	11	11	52	0.41	—	0.33	0.5	3	8	10	nw.	
Condon.	Gilliam.	2,884	4	37.6	—	60	3	6	11	32	1.02	—	0.32	5.5	11	7	5	18	C. H. Williams.	
Corvallis.	Benton.	268	23	44.4	- 1.3	62	1†	26	28	31	4.58	- 2.24	0.99	1.5	15	2	8	20	Oregon Agricultural College.	
Crescent.	Klamath.	4,400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	A. M. Caisse.		
Dayville.	Grant.	2,200	17	41.0	- 1.5	66	14†	12	11	40	0.98	- 0.30	0.56	1.0	5	12	10	ne.		
Deadwood.	Lane.	350	1	46.4	—	65	1	29	11	25	13.37	—	2.61	—	16	7	6	23	nw.	
Doraville.	Columbia.	600	10	42.4	- 1.5	59	7	13	11	18	8.12	- 1.46	1.28	9.5	23	1	6	23	sw.	
Drain.	Douglas.	300	9	46.2	—	63	1	26	11	21	5.89	—	0.91	2.7	17	2	15	13	w.	
Echo.	Umatilla.	625	7	42.2	—	68	3	13	12	38	0.64	—	0.30	3.0	6	11	2	17	sw.	
Ella.	Morrow.	830	7	38.8	—	65	17	6	11	32	0.65	- 0.88	0.27	3.0	5	18	7	5	sw.	
Eugene.	Lane.	449	21	45.6	- 1.0	64	19	23	11	24	3.67	- 1.52	1.50	—	13	2	8	16	w.	
Fairview.	Coos.	142	15	45.4	- 3.9	65	3†	30	22	26	10.15	- 1.27	2.08	1.0	16	9	5	16	Wm. Bettys.	
Falls City.	Polk.	355	14	44.8	+ 0.1	65	1	23	11	33	7.01	-	8.92	1.90	0	18	7	5	18	Chas. F. Vick.
Forest Grove.	Washington.	220	22	45.6	+ 1.1	66	1	20	10	34	3.80	-	5.38	0.75	0.7	15	1	8	21	Pacific University.
Gardiner.	Douglas.	73	21	49.5	- 0.2	64	1	31 <sup>d</sup>	10	24 <sup>d</sup>	7.56	-	3.17	1.00	0	13	8 <sup>c</sup>	1 <sup>b</sup>	18 <sup>a</sup>	J. S. Gray.
Glendale.	do.	1,441	7	46.6	—	70	3	23	30	30	2.37	—	0.86	6.0	9	11	3	16	nw.	
Glenora.	Tillamook.	575	20	42.4	- 1.2	55	2†	19	11	30	20.62	- 5.62	2.60	16.0	22	4	4	22	sw.	
Granite.	Grant.	4,680	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	L. N. Ford.		
Grants Pass.	Josephine.	956	23	43.6	- 1.0	69	2	21	28	41	2.55	- 2.03	1.30	0.5	11	5	8	17	nw.	
Grass Valley.	Sherman.	2,381	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	John B. Paddock.		
Headworks.	Clackamas.	719	9	40.8	—	58	1	22	11	19	9.05	-	2.53	1.03	1.5	20	7	3	20	Agent, O. W. R. & N. Co.
Heppner.	Morrow.	1,950	21	41.2	- 2.5	67	3	11	11	33	0.93	- 0.41	0.24	6.2	11	10	8	12	Portland Water Works.	
Hermiston.	Umatilla.	451	4	41.4	—	67	3	10	28	40	0.25	—	0.15	T.	3	17	13	0	Frank Gilliam.	
Hermoso Rio.	Crook.	2,300	—	39.0	—	60	3	11	34 <sup>c</sup>	2.67	—	—	0.63	4.0	10	8 <sup>a</sup>	9 <sup>b</sup>	10 <sup>c</sup>	C. W. Kellogg.	
Hood River.	Hood River.	300	21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Carl T. Hubbard.		
Huntington.	Baker.	2,165	10	39.3	—	68	1	14	11†	44	0.08	- 1.10	0.02	0.2	5	8	7	15	H. L. Hubbard.	
Jacksonville.	Jackson.	1,640	23	41.7	- 2.3	66	3	21	11	31	1.85	- 1.96	0.75	1.5	9	13	2	15	L. Connell.	
Joseph.	Wallowa.	4,400	22	31.4	- 0.8	55	20	—	3	11	40	1.86	- 0.13	0.53	16.0	8	10	5	s.	
Klamath Agency.	Klamath.	4,163	3	27.6	—	70	3	1	11	54	3.20	—	1.50	17.0	7	15	5	10	nw.	
Klamath Falls.	do.	4,100	22	35.0	—	60	3	14	12	28	0.87	—	0.40	6.0	3	10	1	19	w.	
Le Grande.	Union.	2,784	24	37.4	- 3.4	60	3	9	12	33	3.00	- 0.85	0.41	8.3	17	10	5	18	Geo. Frissell.	
McKenzie Bridge.	Lane.	1,490	19	39.5	- 3.0	75	2	17	11	53	13.19	- 0.54	1.82	7.0	22	3	4	23	s.	
McMinnville.	Yamhill.	182	24	44.4	- 0.8	63	1	26	11	30	3.77	+ 4.71	0.86	3.8	20	12	1	17	sw.	
Marshfield.	Coos.	34	10	47.8	—	65	1†	27	11	32	7.11	—	1.03	0	18	—	—	M. E. Pettit.		
Medford.	Jackson.	1,428	—	43.4	—	70	2†	21	30	40	1.67	—	0.85	2.0	11	10	9	11	U. S. Weather Bureau.	
Merrill.	Klamath.	4,070	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Do.		
Metolius.	Crook.	3,600	—	42.2	—	67	20	10	10	40	0.73	—	0.62	0.5	3	14	5	11	sw.	
Mikkalo.	Gilliam.	1,400	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Mrs. Agnes Ritchson.		
Miramont Farm.	Clackamas.	195	23	44.9	+ 1.3	62	1	24	11	28	3.32	- 4.57	0.71	0.5	20	7	4	19	sw.	
Monroe.	Benton.	350	14	45.4	- 1.0	65	7	21	28	29	5.60	- 3.97	1.40	3.0	11	4	5	21	sw.	
Mount Angel.	Marion.	485	25	46.2	+ 0.8	61	1	27	11	22	3.24	—	0.49	1.0	18	8	3	19	sw.	
Mount Hood.	Hood River.	1,650	1	40.8	—	64	2	9	11	36	4.37	—	0.77	12.0	13	7	10	13	w.	
Musick.	Douglas.	5,000	2	37.7	—	59	1†	12	11	25	18.42	—	2.65	77.0	17	12	3	15	sw.	
Newport.	Lincoln.	69	24	49.1	+ 0.1	61	1	28	11	21	6.60	- 4.87	1.09	0	21	3	10	17	sw.	
Paisley.	Lake.	4,500	8	37.8	—	58	3	14	11†	36	0.14	—	0.14	0.2	1	17*	4*	8*	w.	
Pauline.	Crook.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	E. F. Averill.		
Pendleton.	Umatilla.	1,070	22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	John P. McManus.		
Pilot Rock.	Pompeii.	1,817	3	41.8	—	60	3	9	11	38	1.38	—	0.48	8.5	11	18	2	15	sw.	
Pompeii.	Clackamas.	3,879	16	36.3 <sup>b</sup>	- 0.5	62	2	—	—	18.17	+ 4.19	2.00	31.3	20	8	5	17	sw.		
Portland.	Multnomah.	57	41	46.0	+ 0.4	63	1	24	11	18	2.64	- 3.83	0.84	2.2	18	0	5	25	sw.	
Port Orford.	Curry.	80	6	48.0	—	69	1	30	10	26	8.51	—	1.28	0	14	1	15	s.		
Prairie City.	Grant.	3,425	—	35.8	—	57	3†	13 <sup>b</sup>	11	34 <sup>c</sup>	1.70	—	0.24	0.5	12	11*	3	13	nw.	
Pineville.	Crook.	2,864	15	38.6	+ 0.2	64	20	8	11	41	0.61	- 0.48	0.59	2.0	3	15	11	4	sw.	
Prospect.	Jackson.	2,800	5	39.6	—	72	2	18	11	46	8.98	—	1.73	16.0	12	8	10	12	s.	
Ramsey.	Wasco.	1,350	10	38.2	—	64	3	8	11	30	0.94	—	0.27	6.5	8	8	4	18	w.	
Ridge.	Grant.	3,500	3	33.8	—	58	2	4	12	39	2.73	—	0.80	16.0	10	11	3	16	Geo. Summers.	
Redmond.	Crook.	—	—	39.8	—	63 <sup>b</sup>	2†	7 <sup>b</sup>	11	42 <sup>b</sup>	—	—	—	—	15*	7 <sup>b</sup>	7 <sup>b</sup>	sw.		
Richland.	Baker.	2,350	16	36.2	- 2.4	55	1†	12	11	37	0.99	—	0.60	T.	3	9	7	14	w.	
Riverside.	Malheur.	3,000	12	35.1	- 1.3	45	+ 3	1	11	51	0.90	+ 0.05	0.25	2.5	4	14	9	7	w.	
Roseburg.	Douglas.	510	33	45.0	- 0.6	60	5	25	11	23	3.18	- 1.19	0.75	3.0	15	3	13	14	s.	
Salem.	Marion.	120	21	46.3	- 0.7	61	3	27	11	25	1.97	- 4.83	0.44	1.0	15	3	2	25	w.	
Siskiyou.	Jackson.	4,115	3	39.2	—	64	1†	18	11	27	3.59	—	0.48	15.8	12	5	11	14	a.	
Sparta.	Baker.	4,150	20	33.2	- 3.1	61	1	22	11	29	2.57	- 0.18	0.80	31.0	13	9	5	16	U. S. Weather Bureau.</	

TABLE 2.—*Daily precipitation for November, 1911. District No. 12, Columbia Valley.*

Stations.	Watershed.	Day of month.																												Total.					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				
<i>Montana.</i>																																			
Anaconda.....	Missoula.....		T.	T.	15		.07	.21	*	.31	T.		T.	T.	.05						T.	T.				T.	.09				0.83				
Butte.....	do.....		T.	.10	.25	.05	.10	.20	.10		T.		T.	T.	.05						T.	T.				T.	.10	T.		0.95					
Columbia Falls.....	Flathead.....		.18	.30	.30	.13	.07	.30	.02	.07	.07		.25	.44	.24					.20	.30	.08									3.35				
Como.....	Bitter Root.....		.22	.01	.38	.02	.15	.19	.21	.09	.16	.28	T.	.28		.01															2.13				
East Anacondas II.....	Missoula.....		.01	T.	.02							.35	.15	.07	.01	T.	.05	T.	T.	T.	T.										0.78				
Fortine.....	Kootenai.....		.03	.09	.09				.28	.04		.15	.20	.08	.11	.49	.21															1.05			
Hamilton.....	Bitter Root.....								.34																								1.05		
Hat Creek.....	Missoula.....		T.	T.	.03	.23	T.	.10	.34	.10	.04																				1.57				
Kalispell.....	Flathead.....		.10	.13	.08	.13	.30	.06	.02			.68	.14																	2.49					
Libby.....	Kootenai.....		.03	.02	.10				.15	.11	.13	T.	.47	.36	.27															1.87					
Lost Creek.....	Missoula.....								T.	.16	.08																				0.30				
McGinnis Meadows.....	Kootenai.....																																0.30		
Missoula.....	Missoula.....																																		
Ophir.....	do.....		T.	T.	.02	.10	.05	.05	T.		.10	.20	.30																		0.58				
Orvando.....	do.....																																1.04		
Philipsburg.....	do.....		T.	.10																													1.31		
Plains.....	Columbia.....																																2.50		
Pleasant Valley.....	Kootenai.....		.06	.02	T.																											3.67			
Polson.....	Flathead.....																																2.04		
Proctor.....	do.....																																		
Saint Ignatius.....	do.....		.10	.13	.06																											1.55			
Saint Regis.....	Missoula.....																																		
Saltese.....	do.....		.11	.37																													6.70		
Stevensville.....	Bitter Root.....																																0.83		
Thompson Falls II.....	Columbia.....		.01	.05	.23	.03	.50	.32	.09	.03	.16	.21	.42	.03																3.62					
Willow Glen Stock Farm.....	Missoula.....		T.																													0.60			
<i>Wyoming.</i>																																			
Afton.....	Snake.....																																	1.39	
Alta.....	do.....																																	1.87	
Bechler River.....	do.....		.05	.60	.10																												4.48		
Bedford.....	do.....																																1.37		
Moran.....	do.....																																3.54		
Snake River.....	do.....																																5.60		
<i>Nevada.</i>																																			
San Jacinto.....	Snake.....																																	0.93	
<i>Utah.</i>																																			
Standrod.....	Raft.....																																	1.04	
<i>Idaho.</i>																																			
Albion.....	Snake.....																																	1.78	
Almo.....	do.....																																	1.08	
Alpha.....	Payette.....																																		
American Falls.....	Snake.....																																	2.23	
Arrow Rock.....	Bolse.....																																		
Blackfoot II.....	Blackfoot.....		.15	.50	T.																												2.20		
Blackfoot Dam.....	do.....		.35	.17	.02	.17	.10	.20	.32	.05																					2.07				
Bock Ranch.....	Bolse.....		.05	.17	.38	.29	.37	.27	.01																						3.53				
Bogus Creek.....	Payette.....		T.	.42																												3.17			
Boise.....	Bolse.....		T.	.26																													1.70		
Bonner's Ferry.....	Kootenai.....		T.	.10	.46	.06	.34	.16	.05																						0.08				
Boulder Mine.....	Bolse.....		.05	.21	.16	.44	.45	.18	.47	.02																				4.73					
Buhl.....	Snake.....		T.	.02																												0.14			
Caldwell.....	Bolse.....		.02	.14	.14	.16	.05	.05	.06	.03																				1.29					
Camas.....	Lost River Region.....																																0.63		
Cambridge.....	Weiser.....																																	1.71	
Cedar Creek Dam.....	Snake.....		.02	.08																													2.12		
Chesterfield.....	do.....		.10	.20																													1.75		
Clyde.....	Port Neuf.....																																		
Council.....	Weiser.....																																	1.49	
Culdesac.....	Clearwater.....																																		
Deary.....	do.....																																		
Dent.....	T.	T.	.76																														5.14		
Driggs.....	T.	T.	.10	.15	T.	.11	T.	.36	T.																						1.46				
Emmett.....	Payette.....																																1.72		
Forney.....	Salmon.....																																0.71		
Garden Valley.....	Payette.....																																2.65		
Glenns Ferry.....	do.....		T.	.10	.12	.09	.05	.20																							0.37				
Gooding.....	Wood-Malad.....		.																																

TABLE 2.—*Daily precipitation for November, 1911. District No. 12—Continued.*

Stations.	Watershed.	Day of month.																													Total.			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			
<i>Idaho—Continued.</i>																																		
Middle Fork.....	Clearwater.....	T.	.55	.25		.32	.30		.30	T.	.11	.18	.20	.59	.15	.20	.35	.20		.10						.12	.25			.12	3.70			
Milner.....	Snake.....					.31	.22	.31		T.	.24				.05																	1.67		
Moscow.....	Palouse.....					T.	.15	.02	.03		.01	.50	.28		.05	.12															1.59			
Mountainhome.....	Snake.....																																	
Murtaugh II.....	do.....					T.	.10	.35		.16		.07	.05	.12		.60	T.															1.45		
Nezperce.....	Clearwater.....					.27	.10	.03		.03							.02	.02	.27												0.74			
Oakley.....	Snake.....																																1.03	
O'Hara Bar.....	Clearwater.....	T.	.48	.22	.20	.58	.20		.40	T.	.10	.40	.45		.13	.41	.30	.27	*	.10						.08	.30			.10	4.72			
Orofino.....	do.....	.12	.02	.12		.24	.03		.18		.12	.62	.52		.12	.11	.56									.57	.12			3.45				
Payette.....	Payette.....					T.	.11	T.	.09	.05	T.	.26			.04	T.	.47	T.		.01											1.03			
Peaceful Valley.....	Snake.....																																	
Pebble.....	Port Neuf.....					.28	.30	T.	.22	.28	.35	.97	.13		.36	.12	.10	.26	.20	.01												3.70		
Pierson.....	Salmon.....	T.																															1.73	
Pine.....	Boise.....					T.	.21	.40		.23	.30	.07		.40	.51	.23		T.													2.44			
Pleasant Valley.....	do.....	.01	.12	.13	.15	.04	.03		.22						.04	.12	.45	.03													1.38			
Pocatello.....	Port Neuf.....	.37	.06			.01	.23		.34	.41	.04		T.	.02	.27	.20	.02									T.	.05		2.02					
Pocatello Nursery.....	do.....																																	
Poplar.....	Snake.....																																	
Porthill.....	Kootenai.....																																.06	2.22
Powers Ranch.....	Boise.....	T.	.40	.40	.50	.31	.11	.30		T.	.50	.50		1.00																	4.13			
Pyle Creek.....	Payette.....					.29	.06	.46	.42	.20	.44			.40	.46	.91		.12												4.03				
Rattlesnake Creek.....	Boise.....	T.	.30	.12	.40	.19		.25	.60	.06		.38	.60	.62	.10	.05	T.														3.76			
Richfield.....	Wood-Malad.....	.05				.14	.08	.09		.61	.55			.42	.01		.19														2.14			
Roseberry.....	Payette.....																																	
Roseworth.....	Snake.....					.07		.10	.07		.07	.34																				.01	0.66	
Ruby Creek.....	Boise.....	T.	.57	.21	.45	.43	.22	.72	.10		.39	.61	.05		.08	.03															4.96			
Rupert.....	Snake.....	.03				.18	.16	.28	.23	.24		.16		.33	.13																1.74			
St. Maries.....	St. Joe.....					.32	.19	.50	.05	.17	T.	.23	.68	.22		.10	.09	.41	.17											3.82				
Salmon.....	Salmon.....										T.	.12	.35																			1.73		
Salmon River Dam.....	Snake.....																																	
Sandpoint.....	Pend Oreille.....	.12				.40		.98	.05	T.		.79	.67	.33				.36	.62	.47	.03										5.37			
Sheep Hill.....	Boise.....					.90		.42		.17	.70	.03		.57	.83	.79	.05	.08	.01											4.72				
Shoshone.....	Wood-Malad.....	.05	.04	.20	.10	.20	.12	.62	.50			.39	T.	.35	T.															2.47				
Silver City.....	Owyhee.....	T.	.27	T.	.72	.40		.05	.12		.05	.11	.39	.21	.03															2.44				
Smith Prairie.....	Boise.....	.30				.50		T.	.60	T.	.29		.41	.25	.75	.10	.17													3.37				
Soldier Creek.....	Wood-Malad.....					.04		.33	.12	.25	.98	.08		.66	.06	1.00	.10													3.62				
Spirit Lake.....	Pend Oreille.....	.08	.20	.14	.25	.84	.23	.73	.01		1.01	.07	.14		.07			.17	.40										5.70					
Springfield.....	Snake.....					.12	.25	.12	.16	.18		.38	.04		.08															1.60				
Sugar II.....	do.....	T.	.44			.20	T.	.04	T.		T.	.06	.14																		0.99			
Sunnyside.....	do.....					.10		.06	.13	.13							.30	.25	.18											1.32				
Tripod Mountain.....	Payette.....					.45		.35	.26		.56			.30	.04	.10	.22	.04											2.49					
Twin Falls.....	Snake.....					.14		.06	.17	.20		.27	.31		.18		.40	.15												1.88				
Vernon.....	do.....	T.	.09	.33	T.	.50	.69	.42	.05	.01	.43	.84	.18		T.	.96	.60	.62	T.	.10										7.44				
Wallace.....	Coeur d'Alene.....					.13	.02	.06	.02	.01	.08		T.	.01	.42		T.	T.	T.											0.76				
Weiser.....	Wood-Malad.....					T.		.14	.05	.40	.36			.15	T.	.29															1.39			
Wendell.....																																		
<i>Washington.</i>																																		
Aberdeen.....	Coast.....					.98	.86	.99	.28	.21	.16	.25	.21	.28	.82	.26	.62	.64	.14	.47	.07	.13	.43	.12			.106	.18	.08	17.22				
Anacortes.....	Puget Sound.....					.16	.30		.20	.04	T.	.20	.20	.52	.12	.15	.40	.21	.40	.01										.04	4.41			
Baker.....	do.....	T.	.24	.11	.51	.28	.83	.56	.18	.62			.44	.23	.58		.28	.90	.20	.69	.09	.08	.57									15.50		
Bellingham.....	do.....	.27	.06		.17	.43	.28	.15	.10			.32	.74		.09	.30	.00	.43	.50	.13			.20							5.27				
Bellingham (near).....	do.....	.03	.24	.08	.19		.05	.45	.46			.42	.70	.45	.05	.31	.44	.1.65	.57	.09	.05	.01	.60							6.98				
Beverly.....	Columbia.....																																	
Blaine.....	Puget Sound.....	.02	.28			.65	.31	.63	.04	.04	.06		.56	.34	.55	.20	.30	.38	1.10	.45	.27	.15									7.75			
Blewett.....	Wenatchee.....					.03		.10	.06	.05	.50	.30		.40	.14	.90	.10		.12	.05										4.17				
Bremerton.....	Puget Sound.....					.10																												
Brewster.....	Columbia.....					.11	T.																									4.19		
Bumping Lake.....	Yakima.....					.01	.20	.04</																										

TABLE 2.—*Daily precipitation for November, 1911. District No. 12—Continued.*

Stations.	Watershed.	Day of month.																													Total.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
<i>Washington—Contd.</i>																																	
Lakeside.....	Columbia.....																																0.81
Laurel.....	do.....																																3.44
Laurier.....	Kettle.....	.07	.03	.26	.07	.45	.05	.43		.05	.01	.60	.25	.69		.08	.02		.55	.12	.15	.09										2.67	
Lester.....	Puget Sound.....	.35	.40	.25	.30	.60		.02				.18	.12	.10	.60	.13	.18	.21															5.34
Lone Tree.....	Coast.....	.13	.03	.42	.91	.31	.11	.14	.12	.40	3.03	1.02	.47	.41	.23	1.22	3.79	.59	.25	.07		.08	.01	.55									0.61
Longmires Springs.....	Puget Sound.....																																0.61
Lost Creek.....	Columbia.....																																0.61
Lucerne.....	do.....																																0.51
McConihe.....	do.....																																3.40
McCumbers Ranch.....	Moses Lake.....																																0.39
Mettinger.....	do.....																																5.39
Mount Pleasant.....	Coast.....	T.	.15		.05	T.	.40	.21	*	1.12	.05	.80	.03	.12	.03	T.	.10	.42	.45	.05											0.03		
Moxee.....	Yakima.....																															3.78	
Newport.....	Pend Oreille.....																															7.55	
North Head.....	Coast.....	.06	.11	.19	.62	.26	.19	.14	.11	.50	1.15	.26	.14	.15	.07	1.56	1.09	.07	.07	.01	.07	.01	.53									2.46	
Northport.....	Columbia.....	.01	.08	.06	.17	.49	.08	.09																							0.04		
North Yakima.....	Columbia.....																															0.35	
Nutland.....	Columbia.....																															0.96	
Odessa.....	Columbia.....																															0.44	
Olga.....	Puget Sound.....	.23	.06	.22	.16	.21	.24	.10	.20	.30	.71	.66	.30	.16	.18																6.41		
Olympia.....	do.....																															9.89	
Omak.....	Okanogan.....																															0.44	
Oroville.....	do.....																															0.44	
Parker.....	Yakima.....																															0.44	
Peota.....	Snake.....	.08	.05	.33		.28	.28	.52	.23	.10	.25	.01	.27		.06	T.		T.		.01										3.59			
Pomeroy.....	do.....																															1.21	
Port Crescent.....	Coast.....	.07	.09	.03	.48	.06	.26	.20	.02																					6.39			
Port Townsend.....	Puget Sound.....	.04		T.	.04	.12	.04	.05																						1.81			
Pullman.....	Palouse.....																															3.46	
Quinault.....	Coast.....	T.	.28	.02	.66	.73	.13	.30	.47	.16	*	3.77	.71	.29	.71	.00	1.59	5.60	.62	.70	.15	.02	T.	.64	.02	T.	.23	.03	.22	21.52			
Republic.....	Kettle.....																															27.79	
Rex Creek.....	Columbia.....																															0.98	
Ritzville.....	do.....																															1.13	
Robertsville.....	Palouse.....	T.																														4.43	
Roch Lake.....	do.....																															2.21	
Rossal.....	do.....	.03	.02	.34	.05	.42	.06	.10	.05																					2.24			
Russells Ranch.....	Yakima.....																															4.27	
Seattle.....	Puget Sound.....	.16	.03	.28	.05		.06																								3.11		
Sedro-Woolley.....	do.....	.22	.09	.59	.38	.14	.18	.15	.15																					13.52			
Skagitprong.....	Columbia.....																															0.46	
Skagit Power Dam.....	Puget Sound.....																															4.03	
Snohomish.....	do.....																															8.65	
Snoqualmie Falls.....	Columbia.....	.03	.22	.42	.77	.09	.34	.23		.08	1.00	.84	.55		.36	.42	1.48	.85	.09											3.14			
Snyders Ranch.....	Columbia.....																															2.58	
South Bend.....	Coast.....	.18	.09	.70	.73	.37	.35	.26	.26	.10	2.20	1.72	1.37	.21	.52	1.33	6.00	1.65	.32	.13	.04	.12									2.58		
Spokane.....	Spokane.....	.04	.02	.19	.24	.11	.20	.02	.11	.04	1.06	.31		.06		.00	T.														12		
State University.....	Puget Sound.....	.02	.12	.18	.04	.03	.04	T.	T.																					3.11			
Stokes Ranch.....	Columbia.....	.01																													2.12		
Sumner.....	Puget Sound.....	.14	.15	.33	.13	.26	.21	.06	.03																				4.87				
Sunnyside.....	Yakima.....																														0.09		
Tacoma.....	Puget Sound.....	.03	.04	.19	.31	.04	.08	T.	.15	.11	1.13	.32	.30	.05	.03	.86	1.37	.44	.02										5.44				
Tatoosh Island.....	Coast.....	.03	.25	.17	.25	1.00	.02	.06	.26	T.	1.00	2.41	.50	.08	.29	.55	1.20	1.06	.38	.19	.01	.10	.54						11.12				
Tieton.....	Yakima.....																														2.57		
Tonasket.....	Okanogan.....																														0.38		
Toucheet.....	Columbia.....																														11.60		
Toucheet Ridge.....	do.....																														0.30		
Trinidad.....	do.....																														0.28		
Vancouver.....	Columbia.....																														6.34		
Vashon Island.....	Puget Sound.....	.01	T.	.01	.10	.30	.18	.03	.13	T.	T.		.13	.66	.48	.03	.02	.09	1.83	.77	.03	.01	.01	T.	T.	.30	.05	T.	.15	.12			
Wahluke.....	Columbia.....																														0.20		
Wallace.....	Okanogan.....																														0.81		
Walla Walla.....	Columbia.....	.04	T.	.23	.15	.14	T.	.05	.10	.03	.14	T.	T.		.01	.04	0	.02											1.10				
Watougnal.....	do.....	.60	.02	.43	.32	.40	.25	.15	T.	.50	.30	.35	.05	.40	.20	.25	.25	.05	.03										5.63				
Waterville.....	do.....																														1.03		
Wenatchee (near).....	do.....																														5.37		
White Salmon.....	do.....																														0.82		
Wilbur.....	Coast.....	T.	.15	.37																											14.55		
Wind River.....	do.....	.06	.86	.58	.19	1.30	.43	.18																						1.72			
Winthrop.....	do.....	</																															

TABLE 2.—*Daily precipitation for November, 1911. District No. 12.*

Stations.	Watershed.	Day of month.																												Total.			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Oregon—Continued.																																	
Canyon City.	John Day.	.12	.83	.55	1.22	.69	.76	.29	.10	.84	.80	1.84	.06	.93	.43	.66	.53	.12	.29	.02	.65	.04	T.	.18	11.95								
Cascade Locks.	Columbia.	.02	1.84	.22	37.1	1.08	.55	.42	.19	.26	1.84	1.84	1.05	.11	.09	.10	.15														9.44		
Cascadia.	Willamette.	10	.66	.42	.74	.50	.31	.20	.03	.29	.66	.03	.23	.12	.03	.02	.04	.01												5.15			
Caadero.	do.				T.		.18	T.	T.	.25																				0.75			
Christmas Lake.	SE. drainage.				T.		.05		T.																						0.41		
Cliff.	do.				T.				T.																						4.76		
Columbia Mine.	Snake.	.56	.30		.40	.20	.50	.30	.10	.10	.90	.40	.70	.20	.10															1.02			
Condon.	John Day.	.05	.01	.16	.07	.09	.32	.01	.17	.05	.08	.01	.01																4.82				
Coquille River L. H.	Coast.	.06	.14	.40	.24	.40	.20	.20	.50	.61	.50	.69	.50	.16															7.43				
Cornucopia.	Snake.	.09	.60	.85	.40	.30	.32	.08	.97	1.45	.82	.23	.29	.47	.18														4.58				
Corvallis.	Willamette.	15	.04	.22	.38	.64	.23	.04	.99	.25	.42	.35	.10	T.	.01	T.													3.16				
Cracker Creek.	Snake.	T.	T.	.30		.40	T.	.40	.20	T.	T.	.50	.20	.70	.40	T.	.02	.02												0.41			
Crescent.	Deschutes.				T.																										4.76		
Dayville.	John Day.				T.																										0.98		
Deadwood.	Coast.	.57	.39	.96	1.68	.68	.73	.68	1.36	2.61	1.72	.95	.08																13.37				
Diamond.	SE. drainage.	T.			.21	T.	T.	.16	T.																					0.77			
Doraville.	Columbia.	.03	.12	.67	.32	.26	.59	.63	.31	.03	.56	.64	.53	.01	.25	.45	1.28	.74	.04	.33	.26	.01	T.	.05	.01	8.12		5.89					
Drain.	Umpqua.				10	.13	.51	.63	.73	.51	.03	.20	.60	.60	.91	.61	.03	T.	.05	.12	T.	.04								0.76			
Dufur.	Columbia.	.01	.04	.03	.20	.24	T.	.15	.01	.04																			5.05				
Duncan.	Umatilla.	.95	.80	.30	.15	.30	.60	.20			.30	.10	.15	.15	.50	.10													0.64				
Echo.	do.	.05			.05																									0.65			
Ella.	Columbia.	T.	.55																											2.53			
Embody.	SE. drainage.																													3.67			
Eugene.	Willamette.	.27	.10	.26	.36	.35	.10	.10	.15	.16	1.50	.28																10.15					
Fairview.	Coast.	1.05	.62	.93	.95	.35	.80	.25	.15	.62	.88	.64	.08	.24															7.01				
Falk City.	Willamette.	.11	.13	.45	.32	.53	.15	.02	1.90	1.00	1.02	.06	.19	.23	.04														9.26				
Fir Glen.	Coast.	.35	.27	.86	1.45	.32	.82	.08	.20	.64	.86	.62	.11	.09															2.28				
Florence.	do.	.55	.28	.77	.25	.17	.54	.06	.44	.88	.16	.72	.54																3.80				
Forest Grove.	Willamette.	.19	.22	.26	.23	.25	.20	.75			.72	.08	.29	.05	.12	.07														0.52			
Fort Rock.	SE. drainage.	T.	T.	.21																										3.70			
Galtice.	Rogue.	.12	.13	.30	.80	.60	.05	.06	.48	.41	.75	.30																	7.56				
Gardiner.	Umpqua.	.51	.30	.73	.54	.61	.43				.54	.55	.01	.79	.80															0.56			
Glencoe.	Columbia.	.06					.12																								1.66		
Gibbon.	Umatilla.	T.	.05	.10	.03	T.	.05	.15			.40	.40	.03																	2.37			
Glendale.	Umpqua.																														1.57		
Glenora.	Coast.	.20	2.02	.75	1.00	1.03	.55	1.16	1.20	.80	2.00	2.60	.20	.58	.34	1.00	1.40	1.60	.40		.03	1.34		20.62		16.04							
Golden Falls.	do.	1.32	.60	1.25	1.74	1.75	1.03	0.03	.42	1.30	2.10	1.20	2.12	.24																			
Granderonde.	do.																														12.25		
Granite.	John Day.																														11.23		
Grants Pass.	Rogue.																														2.55		
Grass Valley.	John Day.																														1.06		
Greenhorn.	Snake.	.04	.26	.02	.84	.80	.55	.26	.18	.01	.48	.35	1.10	.16	.05	.09	.02												5.47				
Gumboot.	do.	T.	.14		.10	.09	.20				.42	.02	.28	.10																1.57			
Gurdane.	Columbia.																														6.71		
Happy Home.	Umpqua.	.70	1.20	.60	.94	1.20	.20	.15	.75	1.70	.90	1.25	.90	.10														11.23					
Hay Creek.	Deschutes.	.04																													1.06		
Hazeldell.	Willamette.	.31	.69	.20	.71	.90	.40	.40			.35	.28	.60	.69	.72	.05														2.36			
Headworks.	do.	.08	.51	1.03	.59	.61	.83	.13			.60	.57	.88	.26	.67	.21	.07	.03	.56	.19									9.05				
Heppner.	Columbia.	.11	.14	.02	.24	.06	.07	T.			T.	.08	.10	.03															0.93				
Hermiston.	Umatilla.	.07	.03																											0.25			
Hermoso Rio.	Deschutes.	.05																													2.67		
Hilgard.	Grande Ronde.	T.	.10	.20	.20																									2.80			
Hood River.	Columbia.																														12.25		
Hoover.	Willamette.	T.	.05	1.60	.22	1.01	.05	.55	.05	.07	1.01	.47	1.44	1.14	.57	.25	.16	.08	.22		T.	.03	27	12.71				3.20					
Howardville.	Grande Ronde.	.31	.46		.55	.30	.85	.30			.75	.31	.10	.12	.12	.11	.03						T.	.03	4.61				3.00				
Huntington.	Snake.																														3.55		
Ibex Mine.	John Day.	.07	.43	.03	.43	.21	.40	.23	.10	.01	.31	.24	1.01	.32	.15	.15	.15				T.	.03	4.47				1.29						
Ironside.	Snake.																														1.85		
Jacksonville.	Rogue.																														1.86		
Joseph.	Grande Ronde.																														3.20		
Klamath Agency.	Klamath.																														0.87		
Klamath Falls.	do.																														3.32		
La Grande.	Grande Ronde.	T.	.15	.41	.01	.39	.29	.22	.16	.01	.37	.40	.15	.11	.03	.06	.09	.11	.04										3.00				
Lilyglen.	do.																														3.55		
Long Creek.	John Day.	.06	.20	.15	.19	.08	.10	.14	.02	T.	.01	.60	.40	.02															1.97				
Long Valley.	Pitt.	.27																													1.54		
McKenzie Bridge.	Willamette.	.02	1.11	.36	1.06	1.25	.04	.59	.09	.07	.89	1.72	1.82	1.45	.90	.05	.03	.11	.43	.01	.47	.11	.01						13.19				
McMinnville.	do.	.17	.26	.24	.21	.33	.07	.10	.10	.08	.86	.41	.01	.11	.24	.03	.07	.14	.05														

TABLE 2.—*Daily precipitation for November, 1911. District No. 12—Continued.*

Stations.	Watershed.	Day of month.																													Total.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
<i>Oregon—Continued.</i>																																	
Range.	John Day	.20	.40	.20	.20	.03	.12	.04	.10	.70	.80	.04	.04																		2.73		
Ray Creek.	Columbia	.07	.05	T.	.07	.28	.04	.10	T.	.10	.10	T.																			0.81		
Redmond.	Deschutes																																
Reston.	Umpqua	.16	.12	.60	.92	.85	.57	.03	.37	.68	.76	.53	.75	.02																6.82			
Richland.	Snake																																0.99
Riverdale.	Deschutes																																
Riverside.	Malheur	T.	T.	.20	.25	.10	.05	T.	.20	.10																						0.90	
Rock Creek.	Willamette	T.	.58	.11	.16	.99	.09	.64	.78	1.52	1.51	1.23	.93	.15																	10.08		
Roseburg.		.22	.04	.03	.17	.50	.44	.36	.20	.41	.37	.26	T.																		3.18		
Roseland.	Deschutes	.07	.05	.23	.27	.45	.50	.27	.14	.14	.60	.63	T.																		3.46		
Salem.	Willamette	.11	.02	.12	.17	.33	.09	.44	.22	.10	.06	.08	T.																		.07		
Seneca.	SE. drainage																																.197
Siskiyou.	Rogue																																.06
Sisters.	Deschutes	.04	.24	.26	.20	T.	T.	.47	.29	.10	.70	.14																				3.59	
Sparta.	Snake	T.	.20	.04	.10	.20	.20	.10	.10	T.	.80	.15	.08	T.																	2.82		
Stafford.	Willamette	.05	.34	.16	.63	.27	.30	.04	.01	.24	.85	.41	.06	.09	.05	.02	.01	.07												2.57			
Starkey.	Grande Ronde	.18	.20	.25	.19	.23	T.				.31	.57	.06	T.																	2.01		
Summit.	Willamette	.70	.53	.44	.70	.50	.34	.01	.46	.60	1.08	.11	.56	.15	.03	.14	.16	.03												7.45			
Summit Prairie.	Deschutes																																
Susanville.	John Day	.25	.40	.35	.20	.18	.10			T.	1.05	.50	.10	.05																	3.16		
Tamarack.										T.	.30	.63	.02	.50	.03	.09	.09	.11	.70	.14											2.01		
Telocaset.	Snake	.05	.01	.07	.03	.01	.12	.10			.20	.12	.30	.04	.10																1.20		
The Dalles.	Columbia																															1.19	
Tinroo Cabin.	Umatilla	T.	.25	.37	.29	.20	.34	.14			.23	.03	.47	.22																	2.54		
Toledo.	Coast	.60	.40	1.00	.60	.53	.30	.10	.40	1.10	1.40	.60	.80	.10	.35	.20	.20													10.10			
Trail.	Rogue	.11	.41	.23	.56	.50	.07				.29	.33	1.35	.27	.03																4.15		
Trask.	Coast	.05	1.60	1.01	2.00	1.94	.15				.45	2.23	1.98	2.18	.22	1.50	1.04	2.20	2.14	.47											22.37		
Umatilla.	Columbia	.10	.11							T.	T.	.20	T.																		0.41		
Union.	Grande Ronde	.01	.03	.21	.14	.15	.20	.03	.02	T.		.22	.49	.05	.01															1.68			
Unity.	Snake																																
Vale.	Malheur	.04	.04	.33		.01	.22																								0.80		
Valley Falls.	SE. drainage									T.	.01	T.																			1.03		
Wallace Orchard.	Willamette																																
Wallowa.	Grande Ronde	.12	.31	.39	.48	.44	.26				.11	.51	.72		.03	.03	.02	.02												3.73			
Wallowa.		T.	.06	.07		.05	.23	.25	.24			.15	.22	.16	T.	.06	.05	.03	.02											1.77			
Wamic.	Deschutes																															0.86	
Warmspring.																																0.70	
Wasco.	Columbia	.08	.10	.20	.20	.09	.05																								0.76		
Welches.	Malheur	.20	.70	1.73	.37	2.03	2.00	.20	.35	.05	.90	.63	1.43	.20	.93	.32	.69	.32	.29											14.52			
Westfall.	Walla Walla	T.																															
Weston.	Rogue																																1.79
Williams.	Int. drainage																																2.71
Yonma.																																	

\* Precipitation included in that of the next measurement.

† Separate dates of falls not recorded.

‡ Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for November, 1911. District No. 12, Columbia Valley.*

Date.	Montana.				Afton, Wyo.	Idaho.														Idaho.								
	Kalispell.		Missoula.			Boise.		Bonners Ferry.		Hotspring.		Lewiston.		Mackay.		Meadows.		Pocatello.		Salmon.		Shoshone.		Vernon.		Wallace.		
	Max.	Min.	Max.	Min.		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.			
1....	42	20	46	20	52	31	54	34	51	18	62	25	54	26	42	17	.....	.....	50	20	50	18	51	25	.....	44	23	
2....	37	16	42	14	50	11	53	29	46	17	55	22	50	25	50	19	.....	.....	49	16	46	15	50	19	.....	42	22	
3....	31	20	34	16	51	17	57	31	47	19	56	27	50	29	44	23	.....	.....	53	25	44	19	52	21	.....	42	26	
4....	36	30	38	27	48	30	51	36	56	24	60	38	46	31	51	26	.....	.....	45	32	48	23	49	30	.....	39	29	
5....	36	26	41	30	40	26	41	29	39	27	52	28	57	35	52	23	.....	.....	42	30	40	25	42	21	.....	42	32	
6....	43	34	45	32	41	25	46	29	47	25	50	30	58	41	41	21	.....	.....	43	29	43	24	42	29	.....	42	32	
7....	43	32	51	30	37	8	49	36	47	30	55	30	58	43	39	18	.....	.....	38	31	51	25	45	25	.....	44	35	
8....	39	7	47	35	41	28	52	40	57	30	57	37	53	39	41	25	.....	.....	41	33	45	22	49	32	.....	38	30	
9....	10	3	14	8	42	23	42	32	47	10	56	34	40	33	48	20	.....	.....	37	28	38	18	41	29	.....	33	18	
10....	4	-1	13	6	41	19	40	24	20	9	46	32	35	21	28	15	.....	.....	42	18	30	15	34	22	.....	16	11	
11....	9	-8	16	0	25	1	25	16	16	-10	36	19	27	19	20	6	.....	.....	18	13	24	4	30	12	.....	16	7	
12....	15	0	22	-2	23	-8	44	21	16	0	35	16	41	23	32	6	.....	.....	32	9	18	-1	26	4	.....	30	7	
13....	33	15	41	18	38	17	47	36	22	8	50	33	51	35	32	6	.....	.....	39	28	34	22	36	23	.....	38	30	
14....	44	24	48	34	37	17	49	38	47	17	56	39	58	39	36	14	.....	.....	44	33	49	23	41	31	.....	45	33	
15....	37	21	43	30	47	33	50	39	47	20	60	44	45	36	39	16	.....	.....	48	33	40	21	43	34	.....	44	26	
16....	40	22	43	26	46	26	44	36	41	11	52	34	50	33	37	23	.....	.....	37	29	43	22	39	29	.....	38	26	
17....	45	30	46	32	41	25	50	38	46	23	57	36	56	43	44	22	.....	.....	42	31	45	22	44	29	.....	38	33	
18....	46	36	50	39	36	30	49	34	46	23	53	31	59	43	45	26	.....	.....	46	36	44	24	44	29	.....	45	35	
19....	44	33	46	38	45	29	56	38	48	30	60	50	54	44	48	19	.....	.....	49	38	45	23	52	32	.....	42	36	
20....	35	28	54	29	51	27	59	34	46	28	58	35	55	35	39	16	.....	.....	53	34	43	27	49	30	.....	43	32	
Mns.	32.7	18.6	38.6	21.5	38.4	13.0	45.7	30.0	40.0	17.8	51.0	28.5	48.8	32.2	38.3	14.9	.....	.....	40.9	24.2	39.4	16.8	41.3	22.8	.....	38.1	25.5	

Date.	Washington.				North Head.	North Yakima.	Odessa.	Port Crescent.	Seattle.	Sixprong.	Spokane.	Tacoma.	Tatoosh Island.	Washington.				Washington.				Washington.																
	Aberdeen.		Blaine.												Colville.		Kosmos.		Lakeside.		North Head.		North Yakima.		Odessa.		Port Crescent.		Seattle.		Sixprong.		Spokane.		Tacoma.		Tatoosh Island.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.						
1....	58	42	52	29	53	16	64	34	53	30	58	46	60	34	53	20	51	34	53	42	57	33	52	24	49	41	50	46	.....	.....								
2....	58	43	52	34	52	19	64	31	55	31	52	43	55	25	54	19	48	34	47	41	55	27	54	23	48	41	50	45	.....	.....								
3....	55	45	53	46	56	24	54	35	57	37	53	50	62	30	57	25	54	45	52	41	57	32	56	34	53	40	54	49	.....	.....								
4....	55	45	51	37	52	25	50	44	61	37	52	48	61	34	54	19	51	39	52	45	58	42	50	30	54	45	53	46	.....	.....								
5....	56	40	51	43	36	26	52	42	48	38	53	49	62	38	50	22	55	42	56	44	62	38	49	34	55	46	52	47	.....	.....								
6....	56	41	50	41	45	26	48	40	47	35	53	47	52	28	48	24	51	40	51	44	52	42	46	33	52	44	52	43	.....	.....								
7....	58	43	50	26	39	9	54	42	52	35	56	48	62	30	53	28	53	42	57	47	58	41	54	38	55	48	53	46	.....	.....								
8....	50	34	50	28	45	30	51	33	49	26	49	36	53	40	56	22	42	31	47	34	53	35	42	28	45	33	46	35	.....	.....								
9....	38	28	29	21	32	11	40	29	28	19	41	31	41	22	46	11	31	25	39	31	42	28	38	15	38	29	35	37	27	.....	.....							
10....	34	25	26	15	20	7	33	23	22	14	35	29	35	22	25	10	26	19	31	24	35	20	16	12	30	24	29	26	20	.....	.....							
11....	29	18	24	5	17	5	29	7	16	6	42	27	25	5	12	-3	30	13	31	22	25	7	18	8	31	19	41	25	.....	.....								
12....	45	24	39	20	28	9	35	25	18	11	50	42	26	17	22	8	44	30	43	30	26	19	32	8	44	28	48	36	.....	.....								
13....	50	40	34	31	29	8	40	32	29	15	51	47	42	24	35	12	45	35	51	43	29	18	40	26	51	42	47	41	.....	.....								
14....	52	36	50	32	47	24	54	34	42	18	52	46	51	30	43	15	53	33	51	43	54	25	46	37	52	44	51	44	.....	.....								
15....	44	35	46	33	40	12	42	31	40	26	48	41	47	28	45	13	43	30	47	38	56	33	39	25	46	36	46	43	.....	.....								
16....	50	36	46	37	37	12	40	36	34	21	50	47	48	22	41	21	51	33	53	42	55	35	43	28	51	41	50	43	.....	.....								
17....	52	48	51	43	47	28	47	39	53	25	51	48	60	31	44	22	56	43	53	49	56	42	46	41	51	48	50	49	.....	.....								
18....	53	49	52	46	47	32	50	42	54	37	51	50	67	35	50	25	55	45	53	48	57	47	50	42	52	50	51	46	.....	.....								
19....	54	49	46	40	48	34	54	46	49	38	51	49	63	39	54	28</																						

TABLE 3.—*Maximum and minimum temperatures for November, 1911. District No. 12—Continued.*

Date.	Walla Walla, Wash.		Oregon.																		Vale.		
			Ashland.		Baker.		Eugene.		Gold Beach.		Hermiston.		Marshfield.		Portland.		Prineville.		Roseburg.		The Dalles.		
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
1.....	52	36	59	35	52	26	58	45	.....	58	21	65	35	63	45	57	35	56	38	58	33	62	20
2.....	56	36	58	35	52	20	57	32	.....	57	17	65	33	58	42	54	19	56	38	56	28	55	16
3.....	63	40	65	47	55	28	63	35	.....	67	27	62	35	53	44	50	30	59	38	66	32	59	21
4.....	56	44	57	43	44	31	58	40	.....	63	37	58	37	55	48	50	28	57	44	59	46	52	27
5.....	60	42	48	36	40	28	58	43	.....	64	34	56	44	56	47	57	29	60	44	63	45	56	38
6.....	55	40	58	45	44	25	57	45	.....	67	37	59	51	53	40	60	23	60	51	56	40	48	22
7.....	59	48	55	46	42	32	58	51	.....	65	42	56	51	62	51	60	28	53	48	62	41	46	30
8.....	50	35	57	43	42	29	55	45	.....	60	43	54	47	53	38	59	20	54	42	55	46	51	30
9.....	39	20	50	33	32	25	47	37	.....	55	26	48	40	41	33	53	22	42	38	42	36	45	29
10.....	29	17	35	30	29	13	39	29	.....	40	21	43	34	38	28	46	20	38	32	34	28	41	29
11.....	25	10	41	26	20	-2	39	23	.....	30	16	47	27	35	24	35	8	43	25	30	16	34	11
12.....	47	17	43	31	28	18	45	24	.....	31	21	50	37	47	35	49	19	50	37	32	24	34	19
13.....	52	23	50	38	41	24	51	42	.....	47	26	52	46	53	46	51	22	55	42	54	31	39	27
14.....	58	47	54	43	48	36	55	48	.....	64	28	56	50	58	44	50	26	59	48	59	42	40	31
15.....	48	39	50	41	35	29	53	44	.....	54	32	54	46	48	37	54	29	53	42	52	35	58	33
16.....	53	39	46	38	38	20	49	41	.....	52	38	53	38	54	45	50	31	52	43	51	40	53	33
17.....	55	50	65	38	46	28	53	42	.....	62	42	55	49	57	49	50	31	54	45	60	49	53	37
18.....	59	50	46	35	43	32	55	43	.....	65	41	61	41	56	51	53	33	54	39	63	50	50	33
19.....	60	49	40	32	47	34	64	46	.....	62	42	56	41	60	52	58	31	51	37	58	49	56	32
20.....	60	46	42	31	53	32	55	35	.....	61	38	54	47	53	45	64	25	50	38	57	36	52	27
21.....	52	38	54	34	43	26	53	39	.....	59	41	54	37	53	38	63	24	49	32	50	42	54	29
22.....	49	32	55	28	41	21	46	38	.....	50	18	61	31	49	34	50	26	48	33	48	26	51	21
23.....	47	30	46	28	41	25	54	30	.....	52	25	60	31	49	34	53	12	50	33	47	29	47	20
24.....	46	28	49	29	43	21	58	32	.....	52	22	60	32	52	36	50	14	49	30	47	28	42	16
25.....	57	35	45	31	40	25	55	41	.....	53	24	56	42	55	40	49	18	55	33	58	29	40	18
26.....	47	30	49	31	41	26	54	40	.....	58	18	61	38	41	34	60	20	52	37	54	28	50	22
27.....	31	22	58	30	35	16	47	34	.....	58	13	62	40	46	36	62	26	49	36	42	24	46	14
28.....	27	17	56	39	34	18	44	25	.....	38	10	53	20	45	37	54	20	52	29	39	20	36	10
29.....	32	21	48	33	35	17	53	36	.....	39	15	58	41	49	40	50	13	51	36	40	27	35	12
30.....	43	31	46	29	42	26	60	36	.....	46	36	53	30	55	41	53	19	50	30	45	33	41	16
Means.....	48.9	34.0	50.9	35.3	40.8	24.3	53.1	38.0	.....	54.3	28.4	56.1	39.4	51.6	40.5	53.8	23.4	52.2	37.9	51.2	34.4	47.5	24.1

<sup>a, b, c, etc.</sup>, indicate respectively 1, 2, 3, etc., days missing from the record.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.